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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/929,680	08/14/2001	Robert A. Adolph	24,0842	9076

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SCHLUMBERGER OILFIELD SERVICES
200 GILLINGHAM LANE
MD 200-9
SUGAR LAND, TX 77478

EXAMINER

MORAN, TIMOTHY J

ART UNIT PAPER NUMBER

2878

DATE MAILED: 05/14/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/929,680

Applicant(s)

ADOLPH, ROBERT A.

Examiner

Timothy J. Moran

Art Unit

2878

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-45 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-34 is/are allowed.
- 6) ☒ Claim(s) 35 and 37-45 is/are rejected.
- 7) ☒ Claim(s) 36 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) ✓
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) ✓
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2, 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DOCUMENT HANDLING ISSUES

The papers filed on June 24, 2002 (certificate of mailing dated June 19, 2002) have not been made part of the permanent records of the United States Patent and Trademark Office (Office) for this application (37 CFR 1.52(a)) because of damage from the United States Postal Service irradiation process. The above-identified papers, however, were not so damaged as to preclude the USPTO from making a legible copy of such papers. Therefore, the Office has made a copy of these papers, substituted them for the originals in the file, and stamped that copy:

COPY OF PAPERS ORIGINALLY FILED

If applicant wants to review the accuracy of the Office's copy of such papers, applicant may either inspect the application (37 CFR 1.14(d)) or may request a copy of the Office's records of such papers (*i.e.*, a copy of the copy made by the Office) from the Office of Public Records for the fee specified in 37 CFR 1.19(b)(4). Please do **not** call the Technology Center's Customer Service Center to inquiry about the completeness or accuracy of Office's copy of the above-identified papers, as the Technology Center's Customer Service Center will **not** be able to provide this service.

If applicant does not consider the Office's copy of such papers to be accurate, applicant must provide a copy of the above-identified papers (except for any U.S. or foreign patent documents submitted with the above-identified papers) with a statement that such copy is a complete and accurate copy of the originally submitted documents. If applicant provides such a copy of the above-identified papers and statement within **THREE MONTHS** of the mail date of this Office action, the Office will add the original mailroom date and use the copy provided by applicant as the permanent Office record of the above-identified papers in place of the copy made by the Office. Otherwise, the Office's copy will be used as the permanent Office record of the above-identified papers (*i.e.*, the Office will use the copy of the above-identified papers made by the Office for examination and all other purposes). This three-month period is not extendable.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 35 and 37-45 are rejected under 35 U.S.C. 102(b) as being anticipated by Loomis, U. S. Patent No. Re. 36,012. Regarding claim 35, Loomis describes an instrument for detecting neutron phenomena comprising a neutron burst source (58, col. 6, lines 48-52, and col. 8, lines 49-53), a neutron detector (60, col. 6, lines 48-52) adapted to detect slowing down phenomena (col. 9, lines 20-23), and an inelastic gamma ray detector (66d, col. 8, lines 49-53), and a controller adapted to cause detection of capture cross section phenomena (col. 18, lines 48-52). Regarding the limitation "long duration neutron burst phenomena," Loomis does not describe the duration of the bursts, and is therefore understood to include long duration bursts.

Regarding claims 37 and 43, the instrument of Loomis is considered to include the use of repeated bursts.

Regarding claim 38, Loomis teaches the use of a monitor (col. 2, lines 51-57).

Regarding claims 39-42, optimization is considered inherent in the use of the instrument of Loomis.

Regarding claim 44-45, Loomis teaches the use of a thermal neutron detector and a gamma ray detector (see abstract).

Allowable Subject Matter

Claims 1-34 are allowed.

Claim 36 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: Claim 1 includes the limitations that a method for measuring neutron interaction properties of an earth formation comprises irradiating with a plurality of short duration neutron bursts, detecting short duration neutron burst phenomena, and detecting long duration neutron burst phenomena. Claim 13 includes the limitations that a method for measuring neutron interaction properties of an earth formation comprises irradiating with a plurality of neutron bursts having a duration selected to enable detection of inelastic gamma ray phenomena, and detecting long duration neutron burst phenomena. Claim 23 includes the limitations that a method for logging earth formations comprises irradiating with a plurality of neutron bursts having a duration selected to enable detection of inelastic gamma ray phenomena, detecting inelastic gamma ray phenomena, and detecting long duration neutron burst phenomena. Claim 36 includes the limitations that the detection of background radiation is separated from the detection of capture cross section phenomena.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Wilson, U. S. Patent No. 6,207,953, describes an instrument for

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detecting neutron phenomena comprising a neutron burst source (20, col. 8, lines 24-29), a neutron detector (18, col. 9, lines 18-21), and a gamma ray detector (14, col. 8, lines 45-47).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy J. Moran whose telephone number is 703-305-0849. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Porta can be reached on 703-308-4852. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9318 for regular communications and 703-872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

T.M.

TM
May 6, 2003

Constantine Hanna
CONSTANTINE HANNAHER
PRIMARY EXAMINER
GROUP ART UNIT 2878